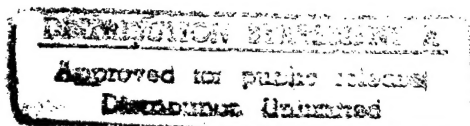


NAVAL WAR COLLEGE  
Newport, R.I.

**DOMINANT MANEUVER: THE ART OF THE POSSIBLE**

by

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A paper submitted to the Faculty of the Naval War College in partial satisfaction of the requirements of the Department of Joint Military Operations.

The contents of this paper reflect my own personal views and are not necessarily endorsed by the Naval War College or the Department of the Navy.

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## **Introduction**

*Joint Vision 2010* is the Chairman's "operationally based template for the evolution of the Armed Forces for a challenging and uncertain future."<sup>1</sup> *Joint Vision 2010* builds upon information age advances in intelligence and command and control to transform the traditional functions of maneuver, strike, protection, and logistics into four new operational concepts: dominant maneuver, precision engagement, full dimensional protection, and focused logistics.<sup>2</sup> This paper defines dominant maneuver as American maneuver warfare for the early 21st century. Four questions guide this determination. What are the roots of modern U.S. maneuver theory? What is the current U.S. concept of maneuver? How does dominant maneuver differ from the current concept? What makes this maneuver dominant?

### **What are the roots of modern U.S. maneuver theory?**

The U.S. Armed Forces learned the value of properly integrating new operational concepts with technology and maneuver warfare thinking from German combat experiences in both world wars. During World War I, German and Allied attrition doctrine called for lengthy artillery bombardments and massive human wave assaults, pitting strength against strength to seize the enemy's forward positions of strength.<sup>3</sup> The lengthy bombardments foiled surprise by telegraphing the attacker's intentions, and the mass frontal assaults were often defeated by enemy machine gun and artillery fire before reaching their objectives. After suffering years of horrendous casualties, both the Germans and the Allies looked for ways to break the stalemate of trench warfare and obtain freedom of action. The Germans opted for a doctrinal solution; the Allies chose technology. Neither solution by itself was optimal, but both had a tremendous impact on the future of maneuver warfare.

In March 1918, German General E. F. W. Ludendorff began what is known as the "Ludendorff Offensive" with a new concept of infiltration. The attack began with a short, extremely violent artillery and gas barrage to surprise the enemy. Small groups of German shock troops bypassed forward strong points, penetrated weaknesses in the enemy lines,

avoided resistance, and successfully pushed toward the Somme River and the Allied rear. Heavier follow-on forces were tasked to reduce the bypassed strong points and exploit tactical penetrations into the enemy's rear. Unfortunately for the Germans, the offensive ultimately failed due to a lack of tactical transportation and reserves that denied the opportunity to turn a stunning penetration into operational exploitation.<sup>4</sup>

The British invented the tank to help the Allies overcome the stalemate of trench warfare. The Allies employed the tank in small numbers as an infantry support vehicle to accompany charges across no-man's land, overcome strong points, and route the entrenched enemy. In November 1917, the British launched the first mass tank attack in history at the Battle of Cambrai. Poor planning for the tank's logistics requirements and commitment of the reserves doomed the operation.<sup>5</sup> Overall, no clear concept of operations for the tank existed, and the war ended before the tank's full potential could be realized.<sup>6</sup>

By the end of World War I, the Germans learned the most about the potential value of tank warfare--from the receiving end. The Germans saw the tank as much more than an infantry escort weapon. They experienced the surprise, shock, and confusion created by tanks. During the interwar years, an army officer named Heinz Guderian successfully combined infiltration tactics and tank employment theory with new tank and aircraft technology.<sup>7</sup> Guderian could foresee how the next war would be fought and he acted upon his vision. Guderian's operational concept was to defeat the enemy in depth and width using armor, artillery, infantry, and aircraft for penetration and exploitation. He helped develop and field new tanks with greatly improved speed, cannon, armor, and wireless communication. By integrating the Stuka dive-bomber into his concept, Guderian acquired flying artillery for long-range support of tanks. Guderian's vision created an extremely capable combined arms team from a concept. When Germany introduced what became known as the *Blitzkrieg* in 1939, it was the most advanced form of maneuver warfare in the world.

German commanders weighed three key considerations to successfully employ maneuver warfare during World War II: *Auftragstaktik*, *Schwerpunkt*, and “surfaces and gaps.”<sup>8</sup>

*Auftragstaktik* is the command philosophy of decentralized execution expressed through task-oriented orders.<sup>9</sup> By issuing carefully crafted operations orders, German commanders cultivated the decentralized execution environment required to obtain and maintain freedom of action.<sup>10</sup>

The idea is that in order to exploit opportunities and the initiative of subordinates, the commander should confine his operations order to explaining the mission and his intent regarding the enemy. Including only such details as are absolutely necessary to coordinate the actions of subordinates, he should allow his subordinates the freedom to figure out *how* to accomplish the task, rather than oversupervising each step of the operation.<sup>11</sup>

Subordinate commanders responded to their freedom of action with coordination and initiative to accomplish their mission and exploit opportunities. If the short-term mission was to seize a physical objective twenty miles to the southwest, subordinate commanders were normally free to attack the objective in any manner as long as they coordinated with each other. However, if the commander’s long-term intent was to exploit in depth to the west, subordinate commanders were expected to do so if the situation presented--without asking for a change of mission. In turn, the commander, freed from the burden of centralized execution, used his vision and initiative to create exploitation opportunities or shift the focus of effort to gain more freedom of action for his collective force.<sup>12</sup>

The second consideration is the German concept of *Schwerpunkt* meaning the “object of focus” for all units.<sup>13</sup> *Schwerpunkt* should be understood as “where the commander believes he can achieve a decision,” not necessarily as a location on a map.<sup>14</sup> The commander often designated both an object of focus and a specific unit as the *Schwerpunkt* to establish a collective sense of mission priorities for all subordinate commanders. For example, if the commander designated the Fifth Army as the *Schwerpunkt* for a penetration, all subordinate commanders made decisions supporting the Fifth Army’s penetration. When combined with

*Auftragstaktik*, *Schwerpunkt* encouraged subordinate commanders to use their initiative to achieve a common objective.

“Surfaces and gaps” is the third consideration. German commanders used “surfaces and gaps” to decide where to place the *Schwerpunkt*. Instead of expending time and forces attacking strong points (surfaces), commanders searched for weaknesses (gaps) to place *Schwerpunkt* in a position to achieve operational-level success. The 1940 German invasion of France is an excellent example of placing *Schwerpunkt* against a weakness to achieve operational success. The French and British expected the invasion route to be through Belgium, so they massed their strength there and along the Maginot Line. The Germans designated General Rundstedt’s Army Group A the *Schwerpunkt* at Ardennes, lightly guarded and considered impenetrable by the Allies. General von Bock’s Army Group B along the Belgian border and General von Leeb’s Army Group C along the Maginot Line supported with fixing attacks. Spearheaded by panzer forces, Rundstedt’s forty-five divisions quickly poured through the “gap” at Ardennes. Operation *Sichelschnitt* was off to a glorious start.<sup>15</sup>

### **What is the current U.S. concept of maneuver?**

Current American thinking on maneuver warfare strongly resembles the German school of maneuver. Above all else, the military views today’s concept of maneuver as the means to defeat the enemy. Specifically speaking, the American concept of maneuver urges the careful consideration of *Auftragstaktik*, *Schwerpunkt*, and “surfaces and gaps” for success. It also strives to harmonize operational concepts with technology to achieve operational success. The following excerpts from American maneuver theory reflect the preservation of German maneuver considerations. Doctrinal excerpts are then presented to highlight the union of concept and technology in combat.

Military theorist Martin van Creveld, author of *Air Power and Maneuver Warfare*, emphasizes the importance of understanding the relationship between *Schwerpunkt* and strengths and weaknesses or “surfaces and gaps:”

The concept of *Schwerpunkt* is sometimes confused with hitting the enemy where he is hardest or weakest. The first will lead to a head-on clash, which provided the forces are at all equal, is likely to be both bloody and indecisive; the latter will lead to attacking into dead ends, scattering one's forces to no avail . . . The really artistic touch, therefore, consists of finding a spot that is both vital *and* weakly defended--a spot which . . . can be found in almost any situation and under almost any circumstances.<sup>16</sup>

The commander provides the artistic touch; the improper placement of *Schwerpunkt* can waste resources or invite disaster.

William S. Lind's *Maneuver Warfare Handbook* focuses on the importance of tempo to achieve freedom of action. Lind sees maneuver warfare as time-competitive "observation-orientation-decision-action cycles."<sup>17</sup> These cycles, otherwise known as "OODA loops" or "Boyd cycles," were made famous by retired Air Force Colonel John Boyd's study of air operations. Boyd believes opponents begin military operations by observing themselves, the physical environment, and the enemy. Based upon observation, a mental picture or orientation is made of the situation. A decision is made based on the orientation, and then the decision is put into effect resulting in an act. Boyd's theory holds the opponent who consistently goes through this cycle faster will gain a tremendous advantage over the enemy. According to Lind,

The Boyd theory defines what is meant by the word "maneuver" in the term "maneuver warfare." Maneuver means Boyd cycling the enemy, being consistently faster through however many OODA loops it takes until the enemy loses his cohesion--until he can no longer fight as an effective, organized force.<sup>18</sup>

How do you "out-Boyd cycle" or continuously act faster than the enemy? Lind suggests the key is decentralized execution through task-oriented orders (*Auftragstaktik*). This saves time by permitting subordinate commanders to act on their own initiative instead of asking for permission. Proper use of *Schwerpunkt* and "surfaces and gaps" will slow the enemy OODA loop by creating panic and confusion.

Air theorists view maneuver warfare as the positioning of forces to attack decisive points, defeat the enemy center of gravity, and accomplish campaign or war objectives.<sup>19</sup> Airmen believe *Auftragstaktik* encourages the flexible and agile use of air power to obtain and maintain freedom of action. Air and space assets can control the battlespace, find enemy



strengths and weaknesses, avoid strong points, and apply surgical lethality to attack the enemy center of gravity or destroy his sanctuaries ("surfaces and gaps" and *Schwerpunkt*).<sup>20</sup>

Today's joint doctrinal publications are in basic harmony with theorists of maneuver warfare. *Joint Publication 3-0* states the purpose of maneuver is:

to gain positional advantage relative to enemy centers of gravity in order to control or destroy those centers of gravity. The purpose of land and naval maneuver is to render opponents incapable of resisting by shattering their morale and physical cohesion (their ability to fight as an effective, coordinated whole) rather than to destroy them physically through attrition.<sup>21</sup>

Maneuver is used to place friendly forces in a positional advantage while focusing on the enemy center of gravity: where the commander believes he can achieve a decision. During the opening hours of ground operations during the Gulf War, coalition forces maneuvered into western Iraq to gain positional advantage and attack the Iraqi operational center of gravity: the Republican Guard. This operational maneuver, led by U.S. ground forces employing technologically superior equipment specifically developed for maneuver warfare, was the final blow in a combined arms effort that routed the Iraqi forces.

Army doctrine emphasizes the importance of employing maneuver with firepower. *Army Field Manual 100-5* views maneuver as the "movement of combat forces to gain positional advantage, usually in order to deliver--or threaten delivery of--direct and indirect fires . . . the means of positioning forces at decisive points to achieve surprise, psychological shock, physical momentum, massed effects, and moral dominance."<sup>22</sup> The coalition air operation in Desert Storm conducted maneuver warfare from land and sea to simultaneously and sequentially concentrate air power overhead the Iraqi operational depth. Coalition air forces vertically delivered direct and indirect firepower to attack and isolate Iraqi operational centers of gravity, create moral dominance, and set the terms for the ground operation. The U.S. joint forces employed multiple types of high technology air superiority, precision attack, and flexible support aircraft specifically designed to conduct maneuver from the air.

The Marine Corps considers maneuver warfare "a fighting philosophy that seeks to shatter the enemy's cohesion through a series of rapid, violent, and unexpected actions which



create a turbulent and rapidly deteriorating situation with which he cannot cope.”<sup>23</sup> The invasion of Panama in 1989 provides a clear example of maneuvering to catch an enemy in a rapidly deteriorating situation. Embracing decentralized execution, the joint force employed the most modern command and control systems, parachute assault forces, forward deployed units, special operations teams, and air elements to simultaneously attack twenty-seven targets at H-hour.<sup>24</sup> The Panamanian Defense Force was overwhelmed and collapsed.

The U.S. successfully created a concept of maneuver to defeat the enemy in battle by combining maneuver theory, doctrine, and technology. The following *Joint Publication 1-02* definition provides a summary of maneuver: the “employment of forces on the battlefield through movement in combination with fire, or fire potential, to achieve a position of advantage in respect to the enemy in order to accomplish the mission.”<sup>25</sup> How is this different from dominant maneuver?

### **How does dominant maneuver differ from the current concept?**

*Joint Vision 2010* defines dominant maneuver as “the multidimensional application of information, engagement, and mobility capabilities to position and employ more dispersed joint land, sea, air, and space forces to accomplish assigned operational tasks.”<sup>26</sup> When comparing dominant maneuver to maneuver, remember the obvious: dominant maneuver evolved from maneuver. *Joint Vision 2010* transforms maneuver into dominant maneuver by envisioning the union of an operational concept with new technological advances. Nearly seventy years ago, Guderian was faced with a similar situation. His vision combined infiltration tactics and tank employment theory with technology to develop the concept behind *Blitzkrieg*. What will be the impact of technological advances on an already sound American concept of maneuver?

Several observations can be made about the characteristics of dominant maneuver. First, advances in information age intelligence and command and control are the critical enablers for the entire concept. Next, new engagement and mobility capabilities will create the

capability to extend the battle in space and time. Finally, the employment of dispersed forces will increase freedom of action.

Information age intelligence and command and control create new opportunities for maneuver. If a multi-layered suite of sensors produces a common, multidimensional picture of the battlespace, intelligence will help the commander more accurately locate “surfaces and gaps.”<sup>27</sup> This will facilitate the exact placement of *Schwerpunkt*. If this sensor suite fixes friendly and enemy dispositions in real time, intelligence will greatly reduce time required for observation and orientation in friendly OODA loops. By intercepting and projecting the enemy’s battlespace picture to friendly forces, intelligence will help maneuver forces enter the enemy OODA loop when they will cause the most shock and surprise. Intelligence will also help commanders anticipate countermaneuver options by reminding them when and where friendly forces are vulnerable.

Command and control advances will create the dissemination and encryption systems required to employ dispersed forces. Subordinate commanders of dispersed forces must have uninterrupted access to the common, multidimensional picture of the battlespace via an intelligent information network.<sup>28</sup> Command and control would then provide the commander and his subordinates with the same shared view of “surfaces and gaps” for the first time in the history of warfare. New technology will also offer commanders the qualitative connectivity required for the decentralized execution of dispersed forces. Security and surprise can be preserved if *Auftragstaktik* dissemination occurs at precoordinated yet irregular times. Commanders can take advantage of immediate connectivity and a common, multidimensional battlespace picture to shift the *Schwerpunkt* or ensure dispersed forces take advantage of fleeting exploitation opportunities. Finally, command and control will coordinate massed effects in multiple dimensions. Field commanders who simultaneously employ air, land, sea, space, and cyberspace forces will have a tremendous asymmetrical advantage over opponents across the range of military operations.

Dominant maneuver will use new engagement capabilities to gain positional advantages and mass effects. Maneuver forces with the capability to manage remote packages of sensors and weapon systems can schedule fires "when and where they are the most valuable and vulnerable."<sup>29</sup> Information penetration capabilities will extend the depth of the battlespace, creating opportunities for exploitation in cyberspace. The object of focus will take on new characteristics. Perhaps *Schwerpunkt* will describe penetrating a weak "cybergap" with a "cyberforce." Commanders will employ simultaneous maneuver in multiple dimensions to focus the physical and illusory effects of engagement. Just as the boxer's jab sets up the hook for the knockout, so will illusory engagements help achieve physical and psychological positional advantages to destroy or control the enemy center of gravity. The focus of engagement will be to mass direct and indirect fires not forces.<sup>30</sup>

Dominant maneuver will depend upon advances in mobility technology to remain in motion while controlling the breadth, depth, and height of the battlespace. New technologies will reduce need for fuel, power supplies, and other materials, shrinking the static footprint of mobility forces.<sup>31</sup> Credible increases in mobility capabilities will increase the psychological dominance of forces dispersed in space and time, rendering rogue nation saber-rattling a far less troubling observation. Advances in mobility technology will increase friendly commander options to accept or decline movement options along multiple axes.

Dominant maneuver will employ forces dispersed in space and time. U.S. forces must use their freedom of action and initiative to coordinate and execute non-linear, multidimensional battle. Global dispersion will help protect our military forces if threatened by weapons of mass destruction. If forces are dispersed within the United States, dominant maneuver can take advantage of convergent lines of operation when responding to contingencies. Convergent lines can help provide mutual support by threatening cross-dimensional attacks to protect friendly forces deploying to a theater. If sufficient massed effects can be produced from dispersed forces, dominant maneuver can present commanders an opportunity to trade time for

space. The need to trade space for time to build combat power may become an economy of force option between theaters instead of within a theater.

### **What makes dominant maneuver “dominant?”**

The mere integration of an operational concept with advanced technology will not make dominant maneuver “dominant.” The human dimension is always the dominant dimension in war. Fog and friction will not be eliminated by a system of systems or any other technological innovation. The intelligence, command and control, mobility, and engagement capabilities reviewed above will generate their own fog and friction. Will subordinate commanders still have the same initiative if their freedom of action is limited by a commander who is always “in the loop?” Commanders at all levels must grant freedom of action if they expect initiative. Even with a common, multidimensional battlespace picture some commander will be in the dark. The challenge will be how to find that commander. Dominant maneuver’s tempo will be ever increasing in velocity. How long can humans sustain it? Surge operations may be required. Will commanders use intelligence advances to over supervise targeting decisions? The massing of effects is an entirely new art form that will take time to learn.

Dominant maneuver will be dominant if leadership rises to the challenge of combining concept with technological advances without ignoring the human dimension of warfare. If commanders want to successfully employ dominant maneuver, they must keep in mind three considerations: *Auftragstaktik*, *Schwerpunkt*, and “surfaces and gaps.”

*Auftragstaktik*. Dominant maneuver maximizes the benefits of decentralized execution through advances in information age intelligence and command and control to greatly increase freedom of action, encourage initiative, and exploit opportunities. Task-oriented orders must become the joint standard.

*Schwerpunkt*. Dominant maneuver positions multidimensional *Schwerpunkt* to mass multiple effects against enemy weaknesses to attack the enemy center of gravity. The

ascendancy of effects will cause the rules for determining relative combat power to be reexamined. Instead of deriving force ratios, perhaps we'll be integrating maneuver dilemmas.

"Surfaces and gaps." Dominant maneuver capitalizes on technological advances in intelligence and command and control capabilities to identify enemy weaknesses and achieve multidimensional positions of advantage. The commander and subordinate commanders will share the same common, multidimensional picture of the battlespace for the first time in the history of war.

Today the United States is faced with limited resources, an aversion for attrition warfare, and unknown challenges across the range of military operations. The U.S. Armed Forces must combine concept with new technology, yet preserve the human dimension of warfare for an uncertain world. By adhering to the considerations of maneuver warfare, dominant maneuver honors the human dimension. It is the art of the possible.

### **Dominant Maneuver is American Maneuver Warfare**

*Dominant maneuver is American maneuver warfare for the early 21st century.*

Dominant maneuver builds on American and German maneuver concepts. U.S. commanders will employ high technology equipment based on sound operational concepts and maneuver considerations to defeat the enemy in battle.

There is one more thing to remember. Although most of the technological advances required to employ dominant maneuver do not exist, the theory does . . . Although the considerations for successful employment of dominant maneuver exist, dominant maneuver does not . . . except in the mind of the commander.

## Notes

- <sup>1</sup> Joint Chiefs of Staff, *Joint Vision 2010*, (Washington, DC: Government Printing Office, 1996), i.
- <sup>2</sup> Ibid.
- <sup>3</sup> The development of German maneuver warfare in World War I is based upon B. H. Liddell Hart, *Strategy*, (London: Faber & Faber, Ltd., 1954; reprint ed., Norwalk, CT: Easton Press, 1992), 205-207.
- <sup>4</sup> Robert Leonhard, *The Art of Maneuver*, (Novato, CA: Presidio Press, 1991), 48-58.
- <sup>5</sup> Michael T. Inman, *Operational Maneuver in the 90's: Is Army Aviation a Viable Option?* (Ft. Leavenworth, KS: School of Advanced Military Studies, U.S. Army Command and General Staff College, 1990), 7.
- <sup>6</sup> *The Art of Maneuver*, 49.
- <sup>7</sup> John Strawson, "General Heinz Guderian," in *The War Lords*, ed. Michael Carver (London: George Weidenfield and Nicholson, Ltd; reprinted ed., Norwalk, CT: Easton Press, 1976), 300.
- <sup>8</sup> The discussion of mission type orders, *Schwerpunkt*, and surfaces and gaps is primarily based on William S. Lind, *Maneuver Warfare Handbook* (Boulder: Westview Press, 1985), 13-24.
- <sup>9</sup> Milan Vego, "Operational Factors," Unpublished Paper, U.S. Naval War College, Newport, RI: 1996, 1.
- <sup>10</sup> Ibid.
- <sup>11</sup> *The Art of Maneuver*, 50.
- <sup>12</sup> The interplay of freedom of action and initiative is from "Operational Factors," 1. Shifting of focus of effort and exploiting opportunities is from *Maneuver Warfare Handbook*, 22.
- <sup>13</sup> *Maneuver Warfare Handbook*, 17.
- <sup>14</sup> Ibid., 17.
- <sup>15</sup> H. Paul Stuart, *Operational Maneuver: Creator of the Decisive Point* (Ft. Leavenworth, KS: School of Advanced Military Studies, U.S. Army Command and General Staff College, 1987), 14-15.
- <sup>16</sup> Martin van Creveld with Steve L. Canby and Kenneth S. Brower, *Air Power and Maneuver Warfare* (Maxwell Air Force Base, AL: Air University Press, 1995), 4.
- <sup>17</sup> This paragraph is based on a developed discussion of maneuver warfare theory as a function of the observation-orientation-decision-action cycle in *Maneuver Warfare Handbook*, 4-8.
- <sup>18</sup> *Maneuver Warfare Handbook*, 6.
- <sup>19</sup> Jeffrey McKittrick and others, "The Revolution in Military Affairs," *Battlefield of the Future* (Maxwell Air Force Base, AL: Air University Press, 1995), 84.

<sup>20</sup> Charles D. Link, "21st Century Armed Forces--*Joint Vision 2010*," *Joint Forces Quarterly*, Autumn 96, 69.

<sup>21</sup> Joint Chiefs of Staff, *Joint Pub 3-0: Doctrine for Joint Operations*, (Washington, DC: Government Printing Office, 1995), IV8-IV9.

<sup>22</sup> *FM 100-5, Operations*, U.S. Department of the Army, (Washington DC: Headquarters, Department of the Army: 1993), 2-10.

<sup>23</sup> FMFM 1, *Warfighting*, (Washington, DC: Headquarters, U.S. Marine Corps), 59.

<sup>24</sup> *Joint Pub 3-0: Doctrine for Joint Operations*, IV11.

<sup>25</sup> Joint Chiefs of Staff, *Joint Pub 1-02: DOD Dictionary of Military and Associated Terms* at "Joint Doctrine Web Site." <<http://www.dtic.mil/doctrine/jel/doddict/data/m/03488.html>>

<sup>26</sup> *Joint Vision 2010*, 20.

<sup>27</sup> U.S. Department of Defense, *Final Report on Tactics and Technology for 21st Century Military Superiority*, (Washington: 1996), III-7. This source offers a credible and amazing overview of potential technological advances for the early 21st century.

<sup>28</sup> *Ibid.*, V-19.

<sup>29</sup> *Ibid.*, III-5.

<sup>30</sup> *Ibid.*, II-12.

<sup>31</sup> *Ibid.*, III-13.



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